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Dairy Calf Club Manual : Extension Circular 6-01-2 1951

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Dairy Calf Club Manual

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Cooperating
W. V. Lambert, Director

FOREWORD

DAIRY PROJECTS are generally three-year programs. The program usually starts with the care of the calf, continues with the heifer and is completed with the cow. Each year's report consists of records maintained during the project year and completed by October 1. The requirements for each year are as follows:

Calf.—Care for and keep records on one or more purebred or grade calves for at least five months.

Heifer.—Care for and keep records on one or more purebred or grade heifers for at least twelve months.

Dairy cow.—Care for and keep feed and production records on one or more purebred or grade cows for at least twelve months. Weighing and testing the milk for a twenty-four hour period at least once a month is necessary for production records.

This manual has been prepared for the calf project. For the heifer and cow project a second manual is available.

This manual can be used in different ways. Perhaps the leader and members will want to read and discuss certain parts of it at different meetings.

Suggested use of this manual is as follows:

First meeting (after manuals are available)—Breeds of Dairy Cattle
Second meeting—Choosing a Breed and Selecting a Calf
Third meeting—Care of the Calf
Fourth meeting—Making a Rope Halter
Fifth meeting—Judging Dairy Cattle
Sixth meeting—Developing Demonstrations
Seventh meeting—Fitting and Showing
Eighth meeting—Common Ailments
Ninth meeting—Complete Final Report
Tenth meeting—Reorganize for Next Year

The illustration of the blanket has been copyrighted by HOARD'S DAIRYMAN and is printed here by permission. The photograph of a calf being encouraged to eat, and the two pictures in the section entitled "Removing Extra Teats," were furnished by the University of Wisconsin. This is the sixth edition of the Nebraska 4-H Dairy Calf Manual. Previous editions were printed in 1931, 1937, 1940, 1944, and 1948.

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Dairy Calf Club Manual

C. W. NIBLER AND M. N. LAWRITSON

AS ONE OF Nebraska's 4-H dairy calf club members, you are watched by the people in your community. You are demonstrating good practices to other boys and girls. Remember if you are to lead the way you have a great responsibility. You don't have to win a prize but you should grow and train a calf you will be proud to own.

In this manual are suggestions on selection, feeding, managing, fitting and showing the dairy calf. Study them carefully and try to make improvement in your work. Combine this information with the experiences you obtain from successful dairymen in your community. The best way to learn about dairying is to work with animals. To learn by doing under the guidance of an adult leader is the 4-H club method.

Dairying is an important part of Nebraska's agriculture. The sale of milk and milk products brings cash to the farm family. Approximately 75 per cent of the milk produced is manufactured by the cow from grass, hay and other roughages. Milk cows change these feeds into food necessary for humans. As a 4-H dairy club member you should be proud to raise and own a small manufacturing plant. You are helping to bring better health to boys and girls by raising and producing good milk cows that can produce quality milk.

Herd developed from one calf by a 4-H club boy.

BREEDS OF DAIRY CATTLE

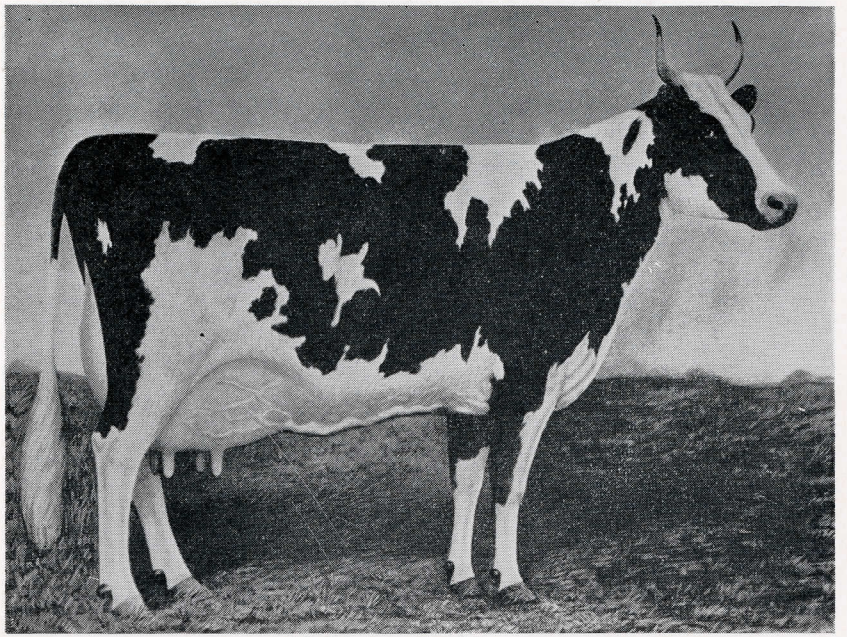
There are five major dairy breeds in the United States. They are the Ayrshire, Brown Swiss, Guernsey, Holstein-Friesian, and Jersey. Milking Shorthorns and Red Polls are dual-purpose breeds maintained on some Nebraska farms.

Ayrshire.—The breed originated in southwestern Scotland in the county or shire of Ayr. Ayrshires were first brought to the United States in 1822. It is a medium-sized breed; cows weigh about 1,150 pounds, and bulls about 1,800 pounds. Calves weigh from 60 to 80 pounds at birth. The color varies from almost pure white to nearly all cherry red or brown, with any combinations of these colors. The tail is usually white. Black or brindle colors are very objectionable. They are sturdy and well balanced and are noted for uniform, square, level udders with well placed teats. Ayrshire milk contains about 4 per cent butterfat, which is average for all dairy breeds.

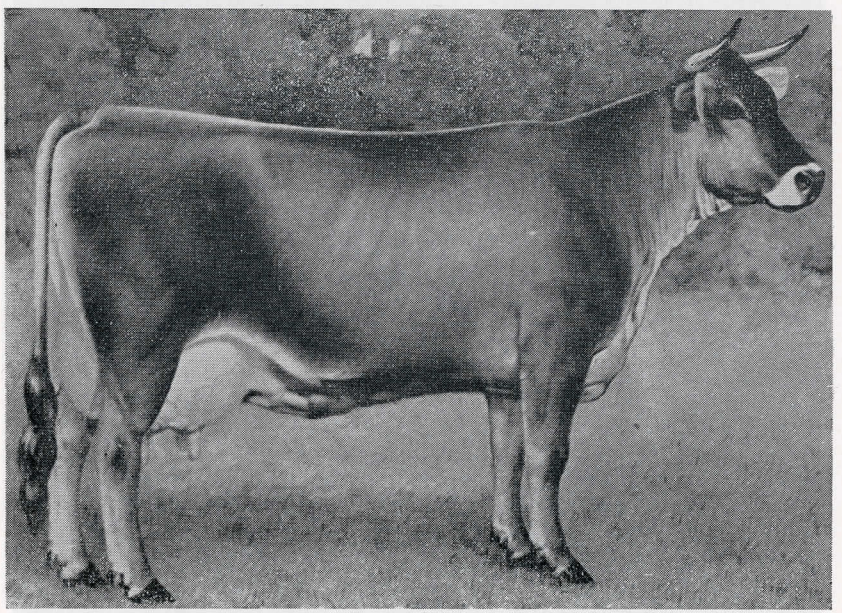
Brown Swiss.—The native home of this breed is Switzerland in the canton of Schwyz. Brown Swiss were first imported into Massachusetts in 1860. The large frame of this breed indicates they were developed for service as draft animals as well as for milk. They are sturdy in appearance with well developed brisket and dewlap. Cows weigh about 1,400 pounds, and bulls about 1,900 pounds. Calves weigh from 65 to 90 pounds at birth. The heifers are slow in maturing. The color of the Brown Swiss varies from dark to light brown, and approaches gray at some seasons of the year. White splashes on the side or on the back are objectionable. Brown Swiss milk contains about 4 per cent butterfat.

Guernsey.—This breed originated on the Isle of Guernsey, one of the Channel Islands near the north coast of France. Originally they were known as Alderneys. Guernseys first came to the United States from the Channel Islands in 1830. They are medium-sized; cows weigh about 1,100 pounds and bulls 1,700 pounds. Calves weigh from 60 to 80 pounds at birth. The color of the Guernseys is fawn and white, with more fawn than white. A light cherry red with white is also found. Sometimes white is entirely lacking except on the legs. The switch is usually white. The skin is yellow. The muzzle may be clear or buff and the horns are amber. Guernsey milk has a rich yellow color and contains about 4.9 per cent butterfat.

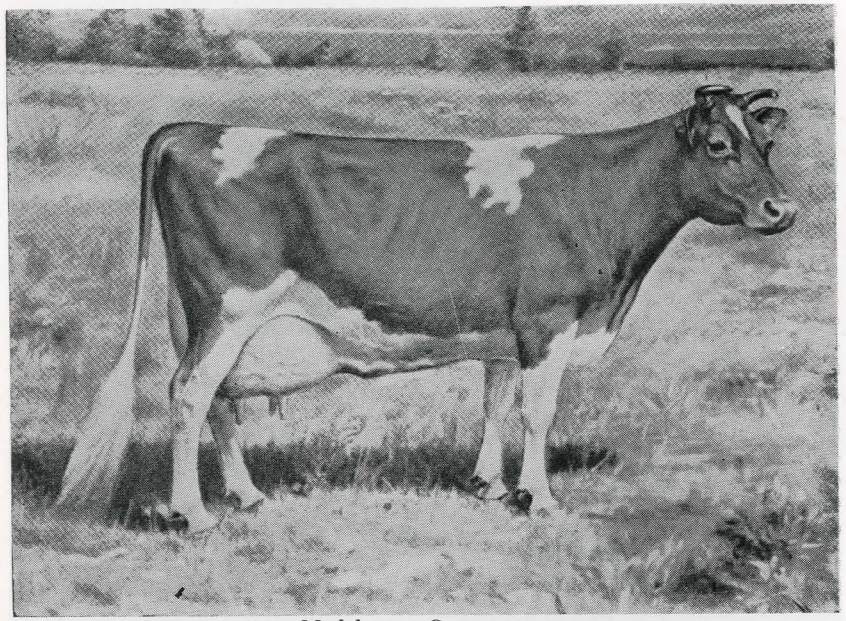
Holstein-Friesian.—This breed was developed in the northern part of the Netherlands, especially in the province of Friesland, and in the neighboring provinces of northern Germany. Holsteins, as they are commonly called, were brought into the United States in 1795. This breed is now widely distributed over the United States. The Holsteins are the largest of the dairy breeds. They have large frames, not heavily covered with flesh. Cows weigh at maturity about 1,500



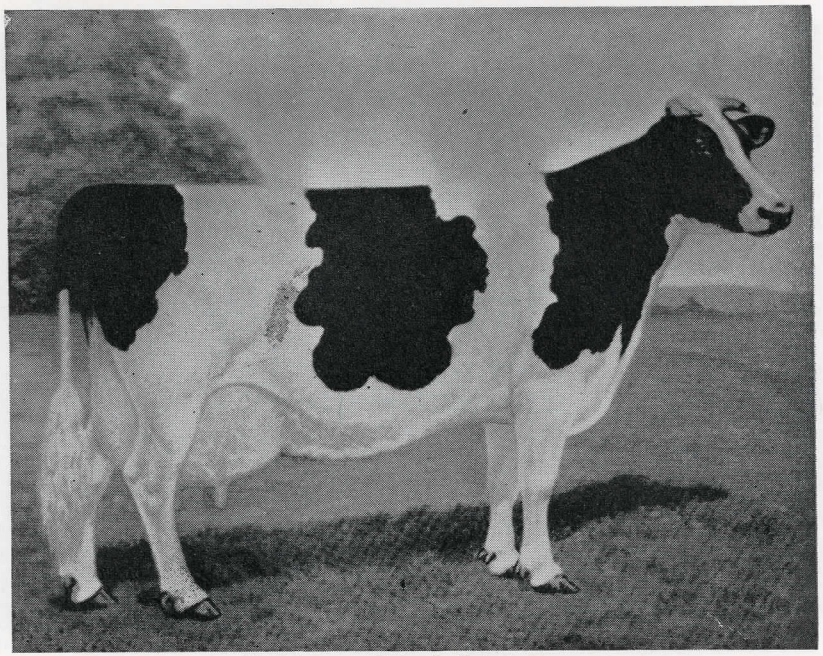
Model type Ayrshire cow.



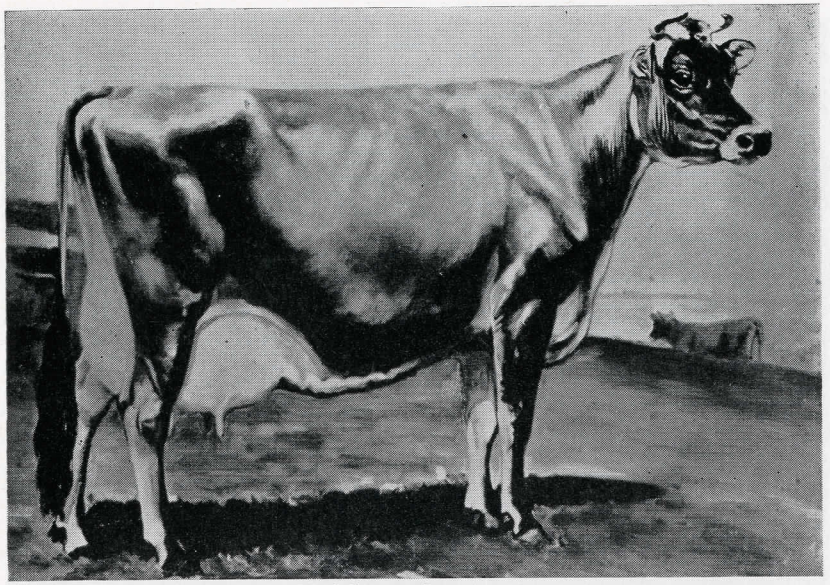
Model type Brown Swiss cow.



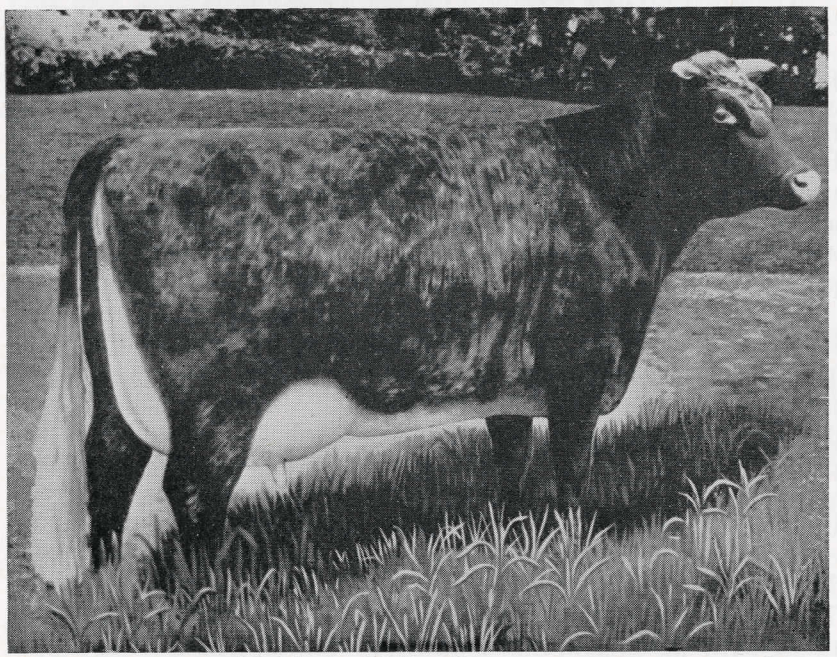
Model type Guernsey cow.



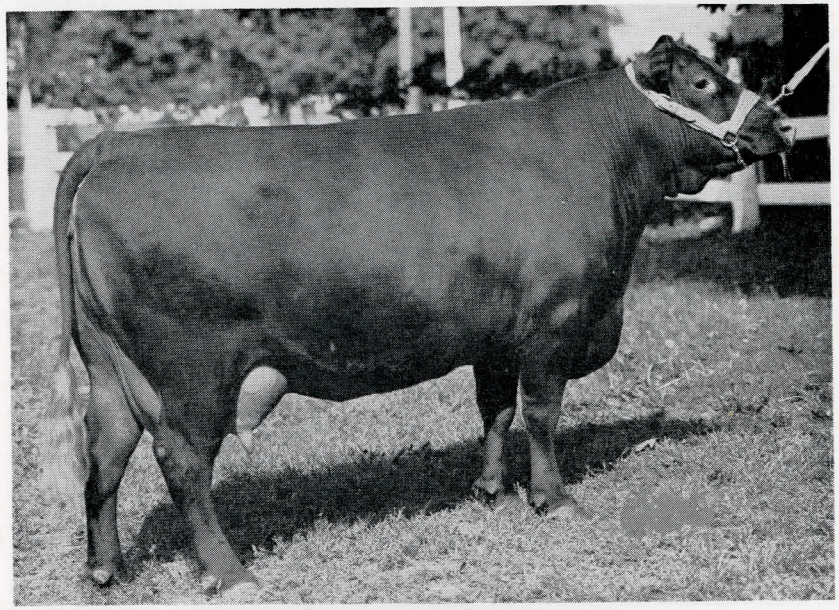
Model type Holstein-Friesian cow.



Model type Jersey cow.



Model type Milking Shorthorn cow.



Living model Red Poll cow—Laddies Diana.

pounds and bulls 2,000 pounds. Calves weigh from 70 to 105 pounds at birth. The color is black and white, with the colors sharply defined rather than blended. They may be nearly all white or black, but no solid colored animal can be registered. They are well adapted to the general farming areas where plenty of pasture, hay and silage are available. The Holsteins produce a large quantity of milk with a comparatively low butterfat content. The average butterfat is 3.5 per cent.

Jersey.—This breed originated on the Isle of Jersey, one of the Channel Islands between England and France. The island is small and the Jerseys have been kept pure for hundreds of years. Jerseys were first imported into the United States in 1850. This is the smallest of the dairy breeds. Cows weigh about 1,000 pounds and bulls about 1,500 pounds. Calves at birth weigh from 40 to 75 pounds. Heifers develop rapidly and reach maturity at an early age. The color of Jerseys is usually a shade of fawn or cream, though different shades of mouse color, gray and brown are common. Some individuals approach black. They may be solid color of any of these shades, or spotted with white. The muzzles and tongues are usually black or lead colored, and around the muzzle is a white or mealy ring. The Jerseys are noted for refinement, quality, and uniformity of type. The average butterfat test for Jersey milk is 5.3 per cent.

Milking Shorthorn.—This breed originated in northeastern England in the valley of the Tees river. When Shorthorns were first imported to America they were often referred to as "Durham cattle" but "Shorthorn" is the correct name. They are a dual-purpose type producing milk with an average butterfat content of 4 per cent. Steer calves have a value for beef purposes, and cows have a good salvage value when through breeding and milking. Milking Shorthorns have rugged constitutions and handle easily. Colors are red, white, and roan. Cows weigh about 1,400 pounds and bulls about 2,200 pounds. This breed is well adapted to the general farming area in Nebraska.

Red Poll.—This dual-purpose breed originated in Norfolk and Suffolk Counties in eastern England. The first Red Polls were imported into New York in 1873. Mature cows weigh about 1,400 pounds, and mature bulls about 1,900 pounds. The preferred color is a cherry red; however, the color varies from a light to a dark red. No white is tolerated except for the switch of the tail and udder. Heifers of normal growth freshen between 27 and 30 months of age.

Red Polls do not rank as high as the dairy breeds in milk and butterfat production. The milk averages 4.3 per cent butterfat. Steers rank high as meat producers, as they are blocky and dress out well.

Facts have been presented about the five major dairy breeds and the two main dual-purpose breeds. In addition, a few minor breeds of dairy cattle are scattered over the United States. The most important of the minor dairy breeds is the Dutch Belted, followed by the Red Dane, French Canadian, and the Dexter and Kerry breeds.

Questions for Discussion

1. Name five major dairy breeds and give one common characteristic of each breed.
2. Name two dual-purpose breeds and give two characteristics of each breed.
3. Which breed produces milk highest in butterfat percentage, and which breed produces milk lowest in butterfat percentage?
4. Which dairy breed is slowest in maturing? Which breed matures first?
5. From which feeds do dairy cattle receive most of their nutrients for growth and milk production?
6. Which of the five dairy breeds was first imported into the United States?
7. Where are the Channel Islands?
8. Describe the coloring of each of the five dairy breeds.
9. Describe the coloring of each of the dual-purpose breeds.
10. Can you identify the breeds when the weights for cows are as follows: 1,100, 1,150, 1,500, 1,400 and 1,000 pounds.

CHOOSING A BREED

Now that you know more about the different breeds you will want to choose the best one for your project. Talk this over with your parents and 4-H club leader. Several things to consider in selecting a breed are listed below.

First.—It is best to choose the breed that is most popular in the community. If you do this you have more calves to select from because more are available. When a popular breed is chosen it is easier to buy and exchange sires and to sell surplus stock.

Consider local conditions before buying your calf.

Second.—Select the breed you like best. A 4-H club member will take better care of his calf when he chooses his desired breed.

Third. — Determine what you are going to do with the milk. The market available to you should be considered in choosing a breed. Whether you want to milk one, two or many cows will influence your choice of breed.

Fourth.—Choose the breed according to the feed you have available. If your feed is mostly grass, hay and silage you will want to select one of the larger breeds. If you are limited on roughages but have a large supply of grain, one of the smaller breeds may suit you best.

Regardless of the breed you choose, endeavor to secure good quality calves and then take good care of them.

SELECTING THE CALF

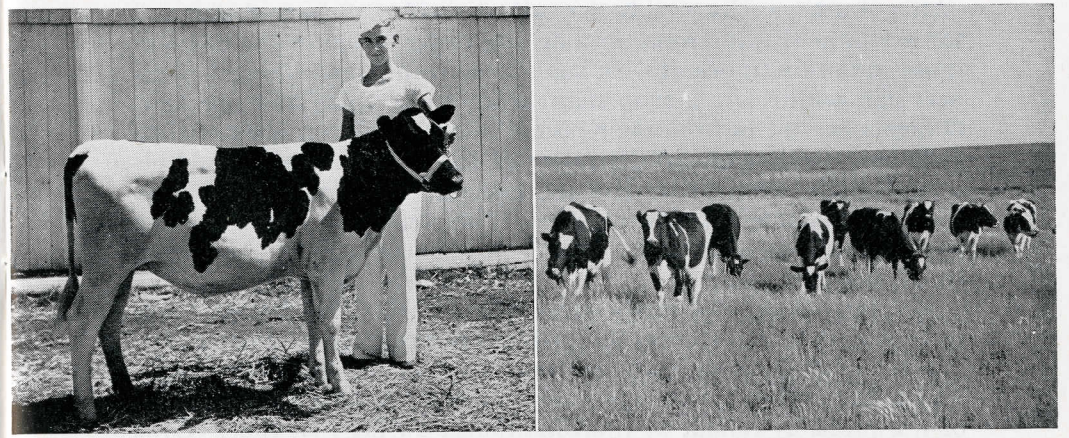
The kind of calf you select is important. Remember the calf you select may be the foundation of your milking herd. The following suggestions are made to help you select a calf. You may think of other factors that will influence your selection.

1. Discuss with your parents and club leader whether you should start with a grade or purebred. Sometimes it is best to start with a good quality grade and later secure a purebred after you have had some experience. A calf is not a purebred unless she has a recorded registration name and number. This name and number is registered in a herd book of the respective breed association.

2. Good high quality calves are scarce. The additional money and effort you invest in a good calf should pay dividends if you do your part.

3. The cost of raising a poor quality calf is as much as raising a good quality calf. The expense of raising a calf is nearly as much as the purchase price.

Select Your Calf Carefully



This . . . may lead to . . . This

4. Select a calf from a mother with good production. Study the records of the calf's sisters. The sire of the calf will influence her production. Study his pedigree to determine the production of his dam and his sisters.

5. Select a calf with good type. Study the true type models of the breeds and select a calf like them. The dam and sire should have good type. The calf should have a straight topline with a long, wide, level rump. The tailhead should be straight and smooth. The calf should have a deep body with good width between the ribs. The heart girth should be deep and wide on the chest floor. Your calf should show dairy character. Dairy character is not as pronounced in calves as in milking cows. The calf, however, should be free from excess flesh over the hips, pin bones and loin, and rather sharp over the withers.

Today's calves are tomorrow's cows. Take time to select a calf you will be proud of for your project.

Questions for Discussion

1. Which is the most important, the type of calf or its inherited ability to produce milk and butterfat? Why?
2. Discuss four factors that are important in choosing a breed for your 4-H club project.
3. What is the difference between a purebred and a grade calf?
4. What are the advantages and disadvantages of owning good quality calves compared with poor quality calves?
5. Discuss five factors you should consider in selecting a calf.

CARE OF THE CALF

After you have selected a heifer calf you will want to feed and care for her properly. Improper feeding and management of the calf may cause you to lose much of what you started with. Many 4-H club members start with calves four to six months of age which they purchase. Others select calves from their fathers' herds. This is a good method to follow. Because of this difference all 4-H club members should become familiar with the feeding and management of the animal from birth until she is a producing cow. This manual discusses feeding and management of the calf. Next year's manual tells you about the heifer and cow.

The care of the calf really starts before birth. The mother needs to be dry six to eight weeks and well fed before the calf is born. During the period when cows are dry, they should gain in weight. This is the time to get cows in good condition. Cows dry two months or less probably cannot be overconditioned during that time. Cows in good condition at calving time will produce more after freshening and their milk will test higher than when they are thin. Feed the cow all the good quality hay and silage she will eat and 2 to 5 pounds of grain daily. Place her in a clean, well bedded stall at calving time. However, in the summer the pasture is a good place for calving if other livestock will not bother the cow and her calf. After the calf is born feed the cow a bran mash, made by mixing warm water and wheat bran together, or equal parts of bran and ground oats. If bran is not available feed ground oats. Do not feed corn to the cow just before and right after calving. Offer the cow warm water after calving. In the feeding and care of the baby calf there are certain steps you should follow.

1. Remove the mucus from the calf's nose and mouth. If the mother does not lick the calf dry, rub the calf with a clean sack. Sometimes a little bran placed on the calf will start the mother licking.

2. Disinfect the navel with tincture of iodine. Be sure the iodine is fresh. A wide-mouth bottle containing the iodine solution can be placed against the navel.

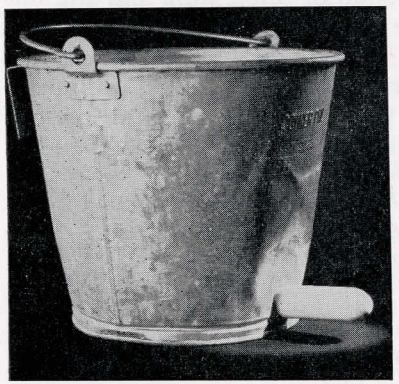
3. Your calf should be on her feet and sucking within an hour after birth. Perhaps you will need to lend a hand at this time. The cow's udder should be wiped clean before the calf sucks. It is important for the calf to receive this first milk from the cow. It is high in vitamin A, which promotes growth and helps prevent scours.

4. Leave the calf with her mother for two or three days. After this you are ready to place the calf in a clean, disinfected, well lighted pen. The next five days are very important because now you need to teach the calf new feeding habits.

TEACHING THE CALF TO DRINK

Calves should have their mothers' milk when they start to drink. Gradually they can be changed to cows whose milk contains a low percentage of butterfat. It is easier to train a calf to drink if it has been away from its mother for about 12 hours. When an open pail is used, back the calf into a corner and straddle its neck. Wet your two forefingers and place them in the calf's mouth. As the calf sucks the fingers of one hand push the calf's nose down in the milk with the other hand. When the calf starts to draw the milk, withdraw the fingers slowly from the mouth. If you and the calf don't cooperate at first, keep trying. Teaching calves to drink requires a great deal of patience. Don't become discouraged. Don't force the calf to drink by holding its nose down in the milk for a long time. If this is done, the calf cannot breathe. As the calf attempts to breathe it may take milk into the lungs, often causing death or injury.

Teaching a calf to drink requires patience.



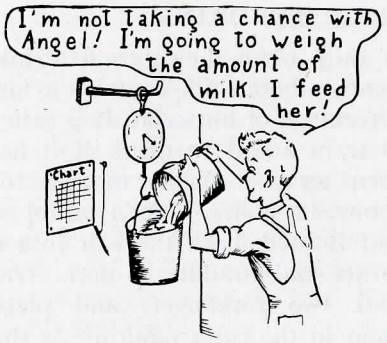
Bucket equipped with nipple for feeding calves.

The use of a nipple pail instead of an open bucket has many advantages. Feeding calves with a nipple pail approaches nature's method. This prevents calves from gulping their milk, which is a bad practice. The disadvantage of a nipple pail is that it is a little difficult to clean. Calf feeding nipples which fit on quart milk bottles can be purchased. They are easily cleaned.

After the calf has learned to drink, follow these simple rules.

1. Be sure the milk is clean and fresh. Don't feed milk from cows with mastitis or garget.

2. Feed milk at regular intervals. Large strong calves should be fed twice a day, small or weak calves three times a day.



Don't guess. Weigh or measure the feed.

3. Feed milk with a uniform temperature of about 100° F. This is very important.

4. Feed daily an amount equal to about 10 per cent of the calf's weight. For example, an 80-pound calf should have 8 pounds of milk daily, 4 pounds in the morning and 4 pounds in the evening.

5. Weigh the milk. Don't guess.

6. Feed from clean buckets. Remember you don't like to eat supper from the unwashed dinner plates.

7. Feed whole milk for about four weeks and then change to skim milk. Make the change gradually.

RATIONS FOR YOUR CALF

Skim milk is whole milk with the butterfat removed. It contains all the food elements of whole milk except butterfat. Because of this, skim milk should not be fed in excess. During the fourth week, one pound of skim milk should replace one pound of the whole milk daily. In other words, remove one pound of whole milk and add one pound of skim milk daily until all the whole milk is replaced. The substitution of skim milk for whole milk should take a week. Be sure that the skim milk is the same temperature as the whole milk. Continue to weigh the milk fed daily. Skim milk should then be fed until the calf is six months old. Below is a table showing a good milk feeding plan.

MILK FEEDING BY WEEKS

Breed of calf	1st and 2nd weeks	3rd week	4th week	5th week	6th week	7th week and after
	Whole milk daily	Whole milk daily	Whole and skim milk daily	Skim milk daily	Skim milk daily	Skim milk daily
	Lbs.	*Lbs.*	*Lbs.*	*Lbs.*	*Lbs.*	*Lbs.*
Guernsey	6	8	10	12	14	16
Jersey	6	8	10	12	14	16
Ayrshire	8	10	12	14	16	18
Brown Swiss	10	12	14	16	18	20
Holstein	10	12	14	16	18	20

A gallon of milk weighs 8.6 pounds.

Milk substitutes.—Calves have been successfully raised on milk substitutes. Dried skim milk, whey, buttermilk and semi-solid buttermilk have been used. Before you use a substitute gather from others their experiences. Prepared calf meals and pellets are available commercially and should be fed according to directions on the container. These feeds are fed dry or mixed with water after the calf has been well started on whole milk or when about four weeks old. Any change from milk to a substitute should be gradual. If skim milk is not available and you purchase a substitute, get a high quality one that is available at all times.

Remember it is hard to obtain a feed better than skim milk and a home mixed grain ration.

Develop calves with good frames.

Grain.—Encourage your calf to eat grain as soon as possible. This applies whether it is receiving milk or a substitute. Generally when a calf is ten days to two weeks old she will nibble on a little grain. After feeding, rub a little grain on the calf's nose or place it in her mouth so she will learn to eat. Your calf will learn to eat ground grain sooner than whole grain. Coarsely ground or cracked grain is better than grain ground very fine. Feed your calf all the grain she will eat until about four months old. After that limit the amount to 3 pounds daily. Heifers can be fed this amount until they are twelve months old. Do not fatten your heifer. Just keep her growing.

A good grain ration, and one often used, consists of equal parts by weight of ground corn, ground oats and wheat bran. Other good mixtures are as follows:

1	2	3
1 part cracked corn	2 parts cracked corn	4 parts cracked corn
1 part whole oats	1 part ground oats	2 parts ground oats
	1 part wheat bran	2 parts wheat bran
		1 part soybean oil meal

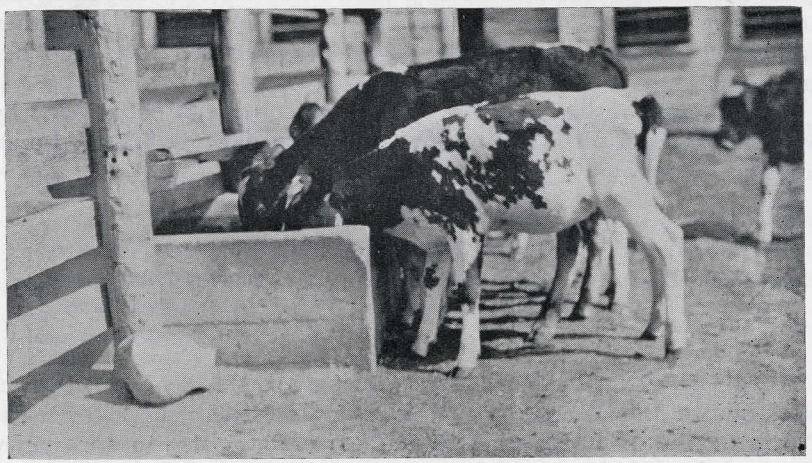
Roughage.—Your calf will begin eating a little hay when only a week or two old. Because her digestive tract is small she will not eat a great deal until she becomes older. Pay close attention to the quality of hay fed. Alfalfa should be green and leafy. Precaution is neces-

Getting a taste encourages the calf to eat.

sary, however, because extremely leafy hay is very rich and sometimes causes scours. Prairie hay mixed with alfalfa is a good roughage. The fodders are not good roughages for young calves.

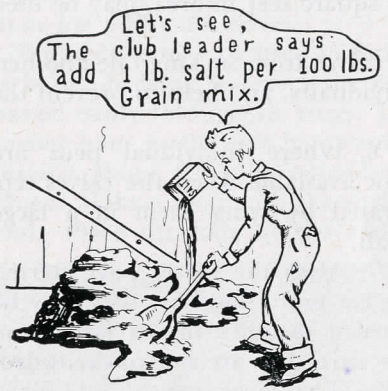
Silage is an excellent feed for heifers over four months old. Silage should be fed in small quantities to the young heifer. Do not replace all the hay with silage. Hay and silage should be fed fresh and free from mold or spoilage.

Pasture.—The pasture grasses are good feeds but are bulky for small calves. If your calf is turned on a good pasture when four months of age be sure she receives her regular feed of milk and grain. Calves



Fresh, clean water is essential.

born in the fall can receive some feed from pastures the next summer. Calves born in the spring receive very little benefit from summer pastures. A calf cannot survive on pasture alone until she is a year old, and even then she needs additional grain. If possible provide shade in the pasture.



Adding salt to the grain mixture is a good practice.

Water and salt.—You should provide fresh clean water at all times. Even when the calf is receiving milk, water should be available. When milk is not fed and when the calf becomes older she will consume more water. Keep the water from freezing in the winter. Your calf needs salt. Granulated salt is better for calves than block salt. Place this in a box where the calf can reach it. In 100 pounds grain mixture, mix 1 pound of salt.

Minerals and vitamins.—Milk is high in the minerals required for growth. If you are feeding as suggested in this manual the only mineral needed which is not in the feeds would be supplied with steamed bone meal. Place 1 pound of steamed bone meal in 100 pounds of the grain mixture. In addition 1 part steamed bone meal should be mixed with 1 part granulated salt and fed in a box.

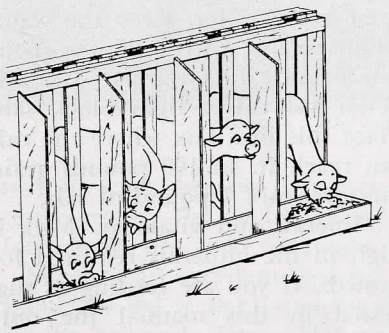
Good quality green alfalfa hay is high in vitamin A. Whole milk also contains this vitamin. For some calves it might be helpful to provide additional vitamins A and D by adding cod-liver or similar oils high in these vitamins to the milk.

Questions for Discussion

1. Discuss how you should feed and care for the dry cow.
2. What are a few things that should be done with a baby calf?
3. Describe in your own words how you would teach a calf to drink.
4. What are important factors to consider in feeding milk to calves?
5. What are the differences between colostrum milk, whole milk, and skim milk?
6. Name some calf feeds that can be used as milk substitutes.
7. When should you start feeding calves grain? How much should you feed?
8. What do you suggest as a good grain ration for calves?
9. What do you suggest as a good roughage for calves?
10. What vitamins does cod-liver oil contain?

HOUSING FOR YOUR CALF

1. Shelter for calves should be dry and well bedded.
2. Shelter should furnish protection from wind and rain and should be well lined and properly ventilated.
3. Keep the calf pens clean.
4. Small individual pens, 24 to 30 square feet in area, may be used for small calves.
5. Small individual pens keep the calves from sucking one another, make it easier to feed the calves individually, and help to prevent the spread of disease.



Keep calves locked in stanchions until they have eaten their grain.

6. Where individual pens are not available, keep the calves separated by tying them in a large stall.
7. After the calves have started to eat grain and hay, they may be turned together into a large pen. Be sure they are not too crowded.
8. The large pen should have stanchions for fastening each calf at feeding time. This will prevent the calves from sucking each other and will allow each calf to get the proper amount of feed.
9. Feed grain immediately after feeding milk, and keep the calves confined in the stanchions until the grain is eaten.
10. A good hayrack should be provided.
11. The calves should have a well-drained and sunny exercise lot. Provide some kind of shade, as the calves will need it on very hot days.

RAISING YOUR HEIFER AFTER SIX MONTHS

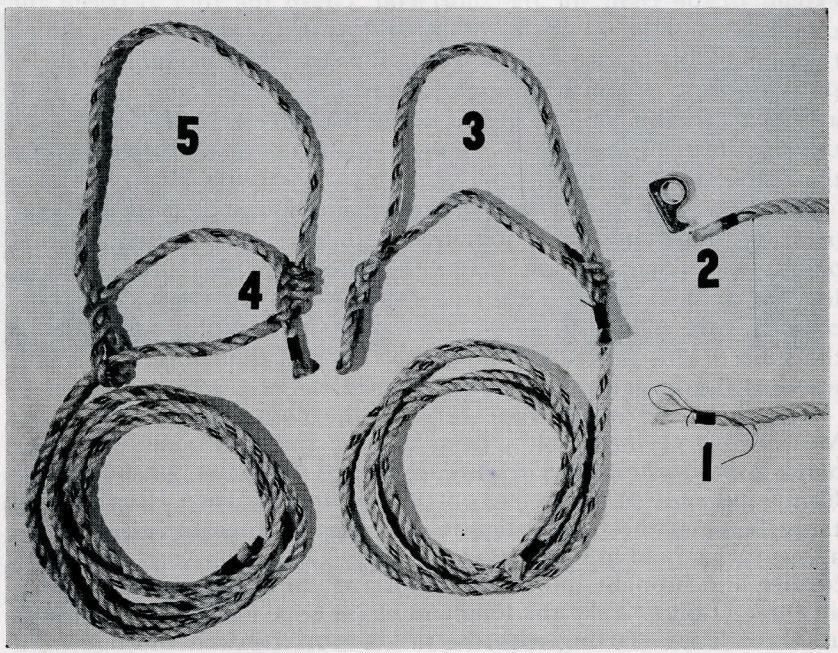
The first six months is the most critical period in raising your heifer. However, don't neglect her from six months to one year because this period is also important in the heifer's development. Following are some points you should discuss at one of your club meetings.

1. After your heifer is six months old, continue to take an interest in her. Don't neglect her now. Continue to see that she is properly fed and cared for.
2. Continue to feed her grain until she is twelve months old. Roughage is not sufficient for a growing heifer. Feed enough grain to keep her in a thrifty condition, but not fat.
3. Provide her with plenty of good, clean water.
4. Provide her with plenty of granulated salt in a box.
5. Continue to brush your heifer and lead her now and then.

HALTERS

Rope halters are commonly used in tying cattle. Making a rope halter at a 4-H club meeting is a good demonstration. Since cattle grow rapidly, the halters are made readily adjustable. Rope of manila hemp of various diameters may be used for cattle of different ages, but a halter made of 15 feet of rope ⅜ or ½ inch in diameter is most common for 4-H club calves.

End splices may be used to finish the rope end; however, whipping is better because it leaves the end of the lead small enough to be passed easily through tie rings. Take a piece of strong cord about 40 inches long in the left hand and grasp the rope in the right hand, leaving about 2 inches extending to the left from under the first finger. Make a loop with the cord with 6 or 8 inches left on the short end. Place the loop at the end of the rope with the ends caught



Steps in Making an Adjustable Rope Halter

1. Strong cord is used for whipping the ends of a rope. Strong, colored fish line is excellent cord to use.
2. After the ends are whipped, scotch tape placed around the ends will make the rope easier to work between the strands.
3. The head stall is formed.
5. The completed halter. Notice how the short end is tucked between the strands of the rope at 4 to prevent slipping. The halter is placed on the animal so that the loop is at the left side of the jaw.

under the first finger of the right hand. Take the long end of the cord and wrap it tightly and smoothly around the rope end, wrapping with the twist of the strands of the rope, until wthin ½ inch of the rope end. Then tuck the unused cord through the exposed loop. Pull on the short end of the cord until the loop draws the long end tight well under the whipping. Cut off the loose ends of cord. Soaking the whipped end in waterproof cement makes the end very secure.

With the rope made ready, use a marlinespike to make separation of strands easier. A marlinespike is a round piece of iron or wood pointed at one end, the other end serving as a handle. The pointed end may be slightly flattened. After pushing it between two strands of rope, the strands are easily spread by one-fourth roll of the marlinespike.

Take the rope in the left hand, palm up. Allow 22 or 23 inches to extend to the right for the short end. Grasp the rope between the thumb and forefinger at this point, and, with the marlinespike, open the rope by lifting two strands. Bring the short end around, clockwise (to the right) and put it through the opening in the rope. This forms a loop. Close this loop until the inside diameter is at least twice the thickness of the rope. A loop that is too small closes too tightly when the halter shrinks after getting wet.

Next grasp the loop with the right hand. With the marlinespike, open the short end of the rope outside but next to the loop, lifting one strand. Then take the long end of the rope, bring it from the left and push it through the opening made in the short end. This completes the loop with an equal number of strands on each side of the splice. This procedure leaves the inside of the splice very smoth where it bears against the jaw of the calf.

The short end of the rope becomes the nose piece of the halter. Measure off 11 inches of it from the eye splice or loop. With the hands 2 or 3 inches apart, one at each side of this point, grasp the rope firmly and untwist the rope between the hands. Then close the distance between the hands slightly, keeping the rope untwisted. This allows each strand to form a separate loop. These loops may be opened further and brought into line by working the marlinespike through all three at once. Take the long end of the rope and place it through all three loops, starting with the inside loop. Draw it through until the loop formed becomes the right size for the head piece of the halter. By putting the long end through the loop at the other end of the nose piece, the halter is completed. This halter is readily and safely adjusted.

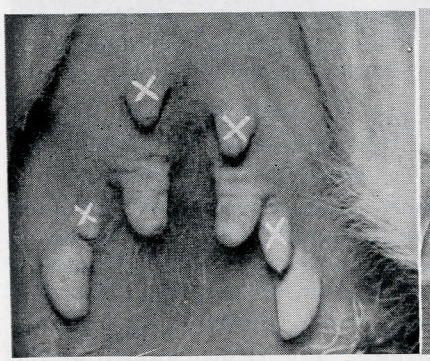
Questions for Discussion

1. Describe what you think is a good way to house your calf.
2. Why is it better to place calves in small individual pens than to place many calves in one large pen?

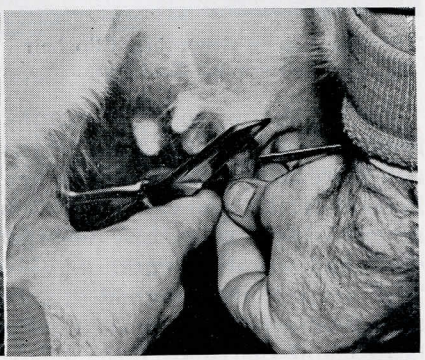
3. Describe how you would feed and manage a heifer six months to one year old.
4. What diameter and length of rope makes a good halter?
5. Demonstrate how to whip the end of a rope with stout cord.
6. What is a marlinespike and how is it used in making a halter?
7. Name three parts of a rope halter.
8. What happens when a rope becomes wet?
9. Describe how to properly place a rope halter on a calf.
10. Demonstrate how to make a rope halter.

REMOVING EXTRA TEATS

Heifer calves may have extra teats in addition to the four normal ones. These teats may not be harmful but they do detract from the looks of the udder. You should remove them when the heifer is about



"X" marks the extra teats on one calf's udder.



Do it early when the calf is four to six weeks old.

one month old. Disinfect the extra teats and the surrounding area with iodine after thoroughly cleaning. They then can be snipped off close to the udder with a clean sharp pair of scissors. Apply a disinfectant such as iodine to the wound. Check to be sure you are removing an extra teat and not a normal one.

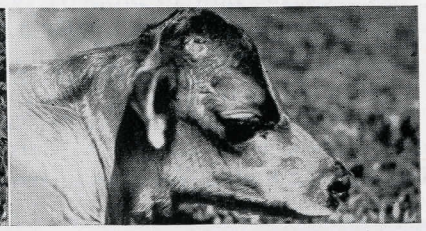
PREVENTING HORNS

Under normal conditions horns are of no value except for beauty. Because cows hook one another, damage may be done if horns remain on animals.

Horns should be removed from your calf when she is young and small. The base of the horn or the horn-producing tissue should be eliminated when soft. This means that the dehorning should be done when calves are not over eight to ten months of age. Chemical de-

horners or commercial pastes are effective and safe dehorners. These have the advantages of caustic pastes or sticks and not the disadvantages. These commercial preparations must be applied during the first two weeks of the calf's life. The hair should be clipped from the skin over and around the developing horn. The dehorner is then applied with a small wood-handled brush to an area about the size of a quarter, directly over the horn bud and surrounding skin.

The first step in dehorning. Clip hair over and around the button.



Chemical dehorners will leave a scar where the horn would have grown.

For calves two to eight months old metal dehorners of different kinds are used. Two of these have proved very good as dehorners and there are probably others that can be used. The mechanical dehorners quickly and easily remove horns from calves up to eight to ten months of age. With these dehorners a ring of hair should be removed with the horn, thus preventing the growth of the stub. The "hot" or "bell shaped" iron method of dehorning can be used for calves any time from a few days to about three months of age. These irons are heated and placed over the small horn. The tissue, located at the base of the horn, is destroyed by burning. The horn buttons will drop off in three to six weeks, leaving a clean head which soon heals. This method is bloodless, and produces a sharp, clean poll.

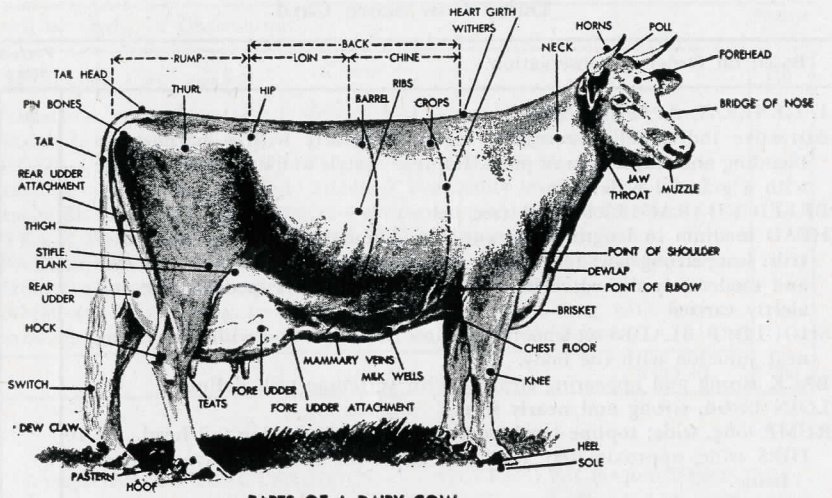
If you use chemical dehorner, study the directions on the container before starting. Regardless of the method you use, do a good job and prevent stub horns. Practice is needed to achieve the best results.

JUDGING DAIRY CATTLE

As part of your 4-H dairy club work you will want to learn more about judging dairy cattle. Be patient with yourself because it will require a great deal of practice if you become a good judge. Follow a system. Develop your judging ability step by step. Be sure to learn to analyze and compare; don't guess. Have good reasons for placing animals in a class or ring. Here are some steps to follow.

1. Learn the different parts of the animal. Study the picture showing the parts of a dairy animal. Be able to name the parts rapidly.

2. Study the true models shown in this manual. Picture in your mind how a good type animal should look.



PARTS OF A DAIRY COW

3. Study the Unified Dairy Cow Score Card. The same score card applies to the five major dairy breeds. Know how many points are given to different parts.

4. Score some cows at a 4-H club meeting. Go over the cows in detail with your leader. After you know the parts of the cow and their importance you are ready to start comparing animals.

5. Have your club meeting at a place where two or more cows can be compared. First, with the score card in mind, compare two animals.

6. Enlarge the number of animals in a class to four or five. Using the four main parts of the score card, place the animals on general appearance, and then on dairy character, on body capacity and on mammary system. Follow this by making an over-all placing.

7. You are now ready to give reasons for your placings. Practice giving reasons at every opportunity. You will need to practice and practice to give a polished set of reasons. Don't become discouraged.

There are some general things you should do to become a better judge. Judging is done with the eyes. Learn to observe closely and accurately. Observe animals from a distance of 10 to 20 feet. See the animals from the side, front, and rear. Look at the animals from an angle and if possible watch them as they walk. When you are starting, compare different parts one at a time. For example, compare the depth of barrel, then the heart girth. Compare the size of udder, the quality of udder, the udder attachments. Don't be satisfied until you have compared every part.

Dairy Cow Score Card

Based on Order of Observation		Perfect Score
1. GENERAL APPEARANCE		30
Attractive individuality, revealing vigor, femininity with a harmonious blending and correlation of parts. Impressive style and attractive carriage with a graceful walk.		
BREED CHARACTERISTICS (see below)	12	
HEAD medium in length, clean cut; broad muzzle with large open nostrils; lean, strong jaw; full, bright eyes; forehead broad between the eyes and moderately dished; bridge of nose straight; ears medium size and alertly carried	—	
SHOULDER BLADES set smoothly against chest wall and withers, forming neat junction with the body.		
BACK strong and appearing straight with vertebrae well defined.		
LOIN broad, strong and nearly level.		
RUMP long, wide; topline level from loin to and including tail head.	10	
HIPS wide, approximately level laterally with back, free from excess tissue.		
THURLS wide apart.		
PIN BONES wide apart and slightly lower than hips, well defined.		
TAIL HEAD slightly above and neatly set between pin bones.		
TAIL long and tapering with nicely balanced switch.	—	
LEGS wide apart, squarely set, clean-cut and strong with fore legs straight.		
HIND LEGS nearly perpendicular from hock to pastern. When viewed from behind, legs wide apart and nearly straight. Bone, flat and flinty, tendons well defined.	8	
Pasterns of medium length, strong and springy. Hocks cleanly moulded.		
FEET short and well rounded, with deep heel and level sole.	—	
2. DAIRY CHARACTER		20
Animation, angularity, general openness, and freedom from excess tissue, giving due regard to period of lactation.		
NECK long and lean, blending smoothly into shoulders and brisket; clean-cut throat and dewlap.		
WITHERS well defined and wedge-shaped with the dorsal processes of the vertebrae rising slightly above the shoulder blades.	20	
RIBS wide apart. Rib bone wide, flat and long.		
FLANK deep, arched and refined.		
THIGHS incurving to flat from the side; wide apart when viewed from the rear providing sufficient room for the udder and its attachment.		
SKIN of medium thickness, loose, and pliable. Hair fine.	—	
3. BODY CAPACITY		20
Relatively large in proportion to size of animal, providing ample digestive capacity, strength and vigor.	12	
BARREL deep, strongly supported, ribs wide apart and well sprung; depth and width tending to increase toward rear of barrel	—	
HEART GIRTH large, resulting from long, well sprung foreribs, wide chest floor between front legs, and fullness at the point of elbow.	8	

Based on Order of Observation		Perfect Score
4. MAMMARY SYSTEM		30
A capacious, strongly attached, well carried udder of good quality, indicating heavy production and a long period of usefulness.		
UDDER—CAPACITY and SHAPE, long, wide and of moderate depth. Extending well forward, strongly attached, reasonably level floor. Rear attachment, high and wide. Quarters evenly balanced and symmetrical. TEXTURE soft, pliable and elastic. Well collapsed after milking.	25	
TEATS uniform, of convenient length and size, cylindrical in shape, free from obstructions, well apart and squarely placed, plumb.	—	
MAMMARY VEINS long, tortuous, prominent and branching, with numerous large wells. Veins on udder numerous and clearly defined.	5	
TOTAL		100

Breed Characteristics

AYRSHIRE CHARACTERISTICS

COLOR—Red of any shade, mahogany, brown or these with white, or white, each color clearly defined. Distinctive red and white markings preferable, black or brindle markings strongly objectionable.

SIZE—A mature cow in milk should weigh about 1150 lbs.

HORNS—Inclining upward, small at base, refined, medium length and tapering toward tips.

BROWN SWISS CHARACTERISTICS

Strong and vigorous. Size and ruggedness with quality desired. Extreme refinement undesirable.

COLOR—A shade of brown varying from a silver to a dark brown. Hair inside ears is a lighter color than body. Nose and tongue black, with a light colored band around nose. Color markings which bar registry are: white switch, white on sides, top, head or neck and legs above knees or hocks. White on belly or lower legs objectionable.

SIZE—A mature cow in milk should weigh about 1400 lbs.

HORNS—Inclining forward and slightly up. Moderately small at base, medium length, tapering toward black tips.

GUERNSEY CHARACTERISTICS

COLOR—A shade of fawn with white markings clearly defined, black or brindle markings objectionable. Skin should show golden yellow pigmentation. When other points are equal, a clear or buff muzzle will be favored over a smoky or black muzzle.

SIZE—A mature cow in milk should weigh about 1100 lbs.

HORNS—Inclining forward, small and yellow at base, refined, medium in length and tapering toward tips.

HOLSTEIN CHARACTERISTICS

COLOR—Black and white markings clearly defined. Color markings which bar registry are solid black, solid white, black in switch, black belly, black encircling leg touching hoof, black from hoof to knee or hock, black and white intermixed to give color other than distinct black and white.

SIZE—A mature cow in milk should weigh about 1500 lbs.

HORNS—Inclining forward, incurving, small at base, refined, medium length and tapering toward tips.

JERSEY CHARACTERISTICS

COLOR—A shade of fawn, with or without white markings.

SIZE—A mature cow in milk should weigh about 1000 lbs.

HORNS—Inclining forward, incurving, small at base, refined, medium length and tapering toward tips.

Evaluation of Defects

In a show ring, disqualification means that the animal is not eligible to win a prize. Any disqualified animal is not eligible to be shown in the group classes. In slight to serious discrimination, the degree of seriousness shall be determined by the judge.

EYES
1. Total blindness: *Disqualification.*
2. Blindness in one eye: *Slight discrimination.*

WRY FACE
Serious discrimination.

PARROT JAW
Slight to serious discrimination.

SHOULDERS
Winged: *Slight to serious discrimination.*

CAPPED HIP
Slight discrimination.

TAIL SETTING
Wry tail or other abnormal tail settings:
Slight to serious discrimination.

LEGS AND FEET
1. Lameness — apparently permanent and interfering with normal function: *Disqualification.*
   —apparently temporary and not affecting normal function: *Slight discrimination.*
2. Bucked knees, blemished hocks, crooked hind legs, weak pasterns: *Serious discrimination.*
3. Evidence of arthritis, crampy hind leg: *Serious discrimination.*
4. Enlarged knees: *Slight discrimination.*

ABSENCE OF HORNS
No discrimination.

LACK OF SIZE
Slight to serious discrimination.

UDDER
1. One or more blind quarters: *Disqualification.*
2. Abnormal milk (bloody, clotted, watery) : *Possibly disqualification. A slight to serious defect.*
3. Udder definitely broken away in attachment: *Serious discrimination.*
4. A weak udder attachment: *Slight to serious discrimination.*
5. One or more light quarters, hard spots in udder, side leak or obstruction in teat (spider) : *Slight to serious discrimination.*

DRY COWS
In case of cows of apparently equal merit: *Give preference to cows in milk.*

OVERCONDITIONED
Serious discrimination.

TEMPORARY OR MINOR INJURIES
Blemishes or injuries of a temporary character not affecting animal's usefulness: *Slight discrimination.*

EVIDENCE OF SHARP PRACTICE
1. Animals showing signs of having been operated upon or tampered with for the purpose of concealing faults in conformation, or with intent to deceive relative to the animal's soundness: *Disqualification.*
2. Heifer calves showing evidence of having been milked, in an attempt to deceive regarding natural form of udder: *Serious discrimination.*

The final test for a judge is giving reasons. You should take this part of your judging work seriously. A few suggestions for giving reasons are: Stand squarely on your feet and look the official judge in the eye, speak plainly, say what you mean and mean what you say. Change the tone of your voice from time to time. Don't have anything in your mouth when you speak.

Here is a sample set of reasons.

"I place this class of Brown Swiss cows A-D-B-C. A is the outstanding cow in the class. She excels D in capacity of udder, which is especially fuller in the forequarters and is much higher and wider in the rear attachment. A's milk veins are larger and longer than D's. A is straighter on the topline and much smoother over the tail setting. She shows more refinement in the thighs and over the withers. A is a deeper cow than D. I will have to admit, however, that D has advantage in refinement in head, neck, and throat and shows more breed character.

"I place D over B, considering this a close pair. D has the advantage over B because she is deeper, and wider in the barrel. She also has a deeper heart girth and is much wider at the floor of the chest. B is especially faulty in this repect. D is more nearly level in the rump than B and stronger and straighter in the back. I admit that B excels D in having a stronger fore attachment of udder and more uniformly placed teats.

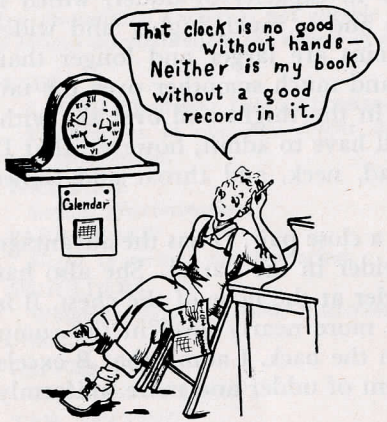
"I place B over C. B is much superior to C in udder development. Her fore udder is more fully developed, extends farther forward, and the teats are placed more squarely on the udder. The halves of the udder are more nearly balanced and the rear attachment is much higher and wider. C's udder is very faulty in that it is badly cleft and tends to be pendulous. B is slightly deeper in the chest, cleaner and more refined in the throat and the head. I admit that C has an advantage over B in her straighter topline and more level rump. These are my reasons for placing this class of Brown Swiss cows A-D-B-C."

In giving reasons be careful to avoid form sets of reasons. Be sure to state facts and never give imaginary differences that do not exist. Animals should always be compared and only the greater differences explained. Compare the animals. Do not describe them.

Questions for Discussion

1. Describe how extra teats are removed from a calf's udder.
2. Why should horns be removed from 4-H club calves?
3. Describe or demonstrate how to prevent or remove horns from calves and yearlings.
4. Why should you do some judging in a 4-H dairy club?
5. List five steps to follow in learning how to judge dairy animals.
6. Describe a good procedure to follow in giving oral reasons.
7. On the score card, how many points are devoted to: Body Capacity, Udder, and Breed Characteristics?
8. Describe in your own words what is meant by "Dairy Character."
9. How would an animal's face look if it were "wry"?
10. In the show ring what are some disqualifications that would prevent animals from being eligible for prizes?

KEEPING RECORDS



Keeping good records is part of 4-H club work.

Part of your 4-H club project is the keeping of records. This is a chore like feeding your calf, and necessary. The Nebraska Record Book for 4-H Dairy Club Members has been made as simple and practical as possible. This record book should be used with the feed record, Form 2-05-2. If one meeting is used for an explanation of records it will be easier to keep them. Be sure to start keeping records at the beginning of your project. Read and follow the directions in the record book and on the feed record sheet. Cooperate with your leader in filing your final report at the close of the project year.

DEMONSTRATIONS

If you demonstrate a dairy practice before your club, someday you will thank your leader for this opportunity. It is an opportunity to practice talking on your feet before your friends. Demonstrating is telling and showing somebody how to perform a simple practice. The 4-H dairy club members should take turns at different meetings in putting on an individual demonstration. Simple practices that might be demonstrated are: whipping the end of a rope, placing a filter pad in a strainer, washing milk pails, brushing the calf, washing the cow's udder, and many others.

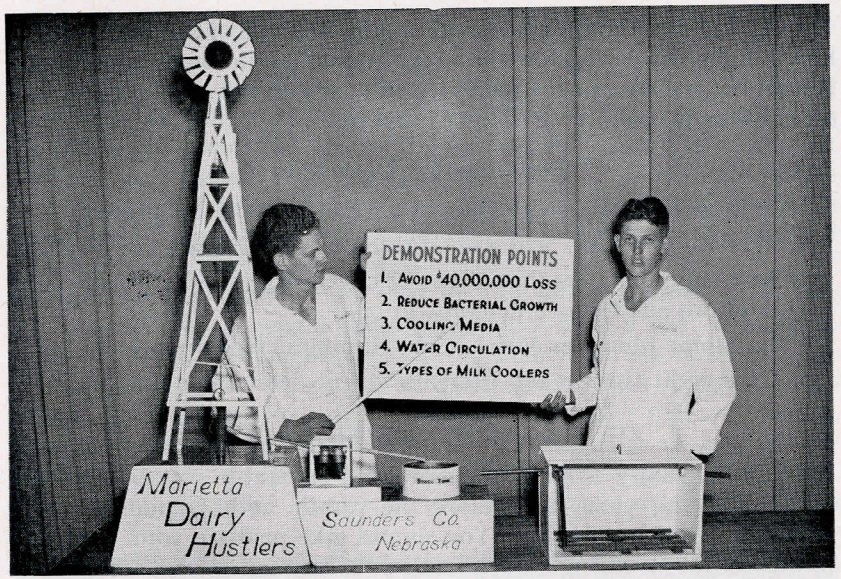
After you and other members have demonstrated individually your club leader can assist the members in developing team demonstrations. The best team demonstrations are built around common improved practices. Do not select difficult subjects or unused practices.

Develop your demonstration about as follows:

1. Select a practical subject that is used or will be used on your farm or in the neighborhood.

2. Develop an outline. Clear thinking and speaking demand well organized material. The outline should have three parts: the introduction, the body or subject matter, and a summary.

3. Select equipment which meets everyday farm conditions. Keep equipment in background until it is used. Have equipment well arranged on the table when in use.



Demonstrating an improved practice of cooling milk and cream on the farm.

4. Posters and charts are used to bring out important steps. Don't make your demonstration a chart lecture. Posters should be neatly made. Lettering and drawings should be large and plain and easily seen by the audience. Do not have too many ideas on one chart.

Ten tips on presentation are listed below:

1. Be natural and at ease. Wear a smile. Call your teammate by name. Talk directly to the audience.

2. Speak distinctly, using good English. Check your pronunciation of words. Talk in a pleasant, conversational tone of voice. Vary the tone to avoid monotony.

3. Know your subject so thoroughly that you can speak with confidence. Make your audience feel that you are an authority on the subject being demonstrated.

4. Coordinate your thinking, speaking, and demonstrating.

5. Practice to give finish and smoothness. Then practice some more.

6. Show real skill in your work. Work quickly. Be sure that your audience can see every detail of the process or method you are demonstrating.

7. Be able to meet emergencies.

8. Boil your summary down to a few short important points. Do not ask an audience to remember eight or ten points.

9. Know your subject so well that you can answer any question in your subject matter field.

10. Questions should be repeated to be sure the entire audience has heard them, but word-for-word repetition may become monotonous. Rather, imply some of the questions in your answers—as....."The reason chlorine is used for sterilizing is because . . ."

Questions for Discussion

1. Why should you keep good records in your dairy project?
2. Why do you think it is a good thing to demonstrate in 4-H clubs?
3. List some practices that might be developed as individual demonstrations and as team demonstrations.
4. List some points essential in developing demonstrations.
5. Give eight tips on the presentation of demonstrations.

FITTING ANIMALS FOR SHOW

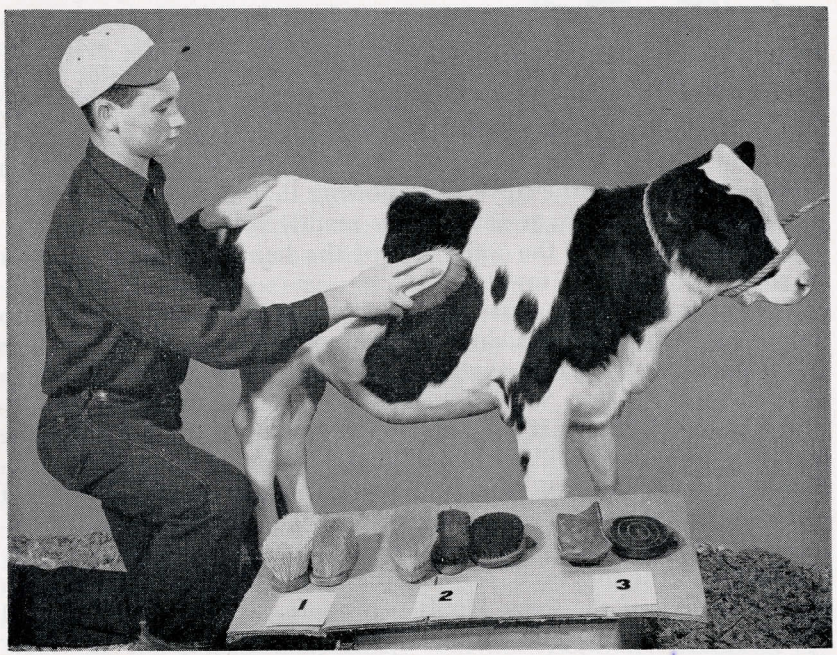
Exhibiting dairy animals at a fair is an enjoyable part of 4-H club work. Showing your calf before the public adds responsibility to your 4-H dairy club project. You should take pride in your work and do a good job in fitting and showing your animal. Those who collect around the judging ring should be rewarded by seeing you exhibit a well fitted animal. Long before you start fitting your animal, the selection of the calf has been made. From now on prepare your animal for exhibition, using the best methods available. Important things to do in fitting animals include proper feeding, washing, brushing, blanketing, clipping, training and polishing horns and feet.

Feeding.—Continue with about the same feeding practices you have been following. About eight weeks before the animal is to be shown watch her more carefully. You will want your calf on show day to have a good healthy, sleek appearance. Avoid having dairy calves too fat or too thin. The ration should stimulate growth rather than cause the calf to fatten. You may want to feed less corn and more oats, wheat bran and linseed oil meal. These feeds are cooling and laxative and good conditioners for the hide and hair. If you want a good fitting ration this one is suggested: 5 parts wheat bran, 3 parts ground oats, 1 part ground corn and 1 part linseed oil meal. Be sure you have the feeds available while at home and at the fair.

If pasture is near, turn the calf out at night for exercise and grazing. The exercise is essential to good health. Remember plenty of water and salt should be available at all times. When animals get away from home they will be expected to eat and drink from boxes and pails. Let them acquire this habit before they leave home. Silage will probably not be available when you are away from home, so eliminate the feeding of silage a few days before the fair. Dried beet pulp is an excellent feed to have available at fairs. When animals are away from home their feeding and watering habits need to be watched more carefully.

Housing.—Protecting your calf from the hot sun during the fitting period will be helpful. Therefore the calf should be housed during the day in a well bedded and well ventilated stall. If a box stall is not available an open shed or other building can be used. Control the flies by spraying the inside with a good fly spray. Darkening the stalls by hanging burlap sacks over the door and openings will help control flies and make calves more comfortable.

Grooming.—Brushing is the backbone of the grooming or "dolling up" process. Brush your animal thoroughly once a day. It is much better to brush thoroughly once a day than to brush half-heartedly two or three times. You may need a stiff-bristle brush to start with to remove the loose particles from the hair. After the dirt is removed, brush with a medium-stiff brush even though no dirt appears. Brushing vigorously makes the hair soft and silky, and removes dead hairs, and gives the animal that sleek, well fed appearance. Follow the



To properly fit the calf for showing, daily brushing is necessary. This keeps the hair smooth and the hide in good condition. No. 1—two rice-root brushes to use in washing the calf; No. 2—three types of soft-bristle brushes for daily brushing; No. 3—two rubber curry combs to help remove old hair at the start of the fitting process.

brushing with a light rub, using a clean soft rag or towel. Rubbing with the hands is good for the hide and hair. In grooming animals there is no substitute for "elbow grease" applied daily. Always brush and rub in the same direction.

The first bath should be thorough. Do not wash the animal too often.

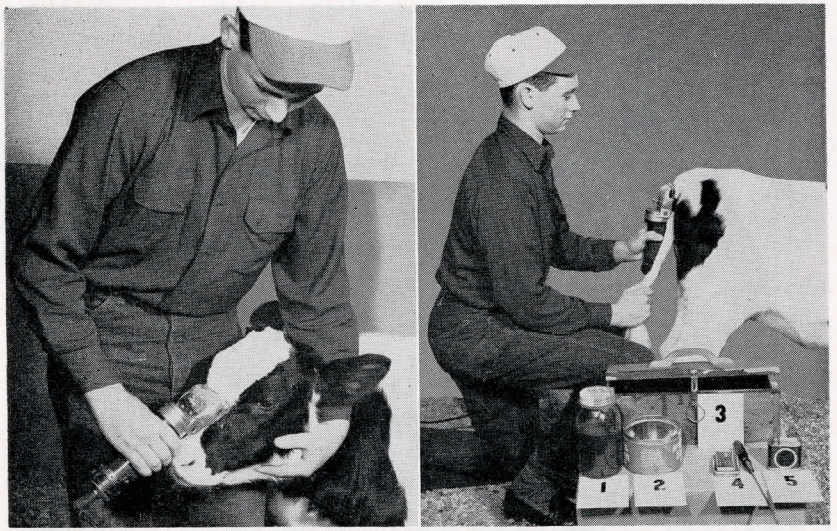
Washing.—The only way your animal can be kept entirely clean is by washing off the dirt and stains that cannot be removed by brushing. Do not wash the animal too often since washing tends to make the skin dry and the hair lose its luster. One or two washings in a season are generally enough. Guernseys and Jerseys should be washed only when absolutely necessary. Wash your animal fast and follow three steps: first, wet the animal thoroughly (keeping water out of ears); second, lather completely by working the soap into the hair with your hands; third, rinse perfectly by removing all lather. A good lather is secured by using a washing powder, a good bar of tar soap, or by preparing a paste by heating water and washing powder together on the stove and allowing the mixture to cool. This produces a jelly-like paste that lathers readily with water.

After rinsing, work the water out of the hair with your hands or by rubbing with a soft towel.

The night before show day wash the switch of the tail. Braid into several small braids, tie strings or place rubber bands on the ends and leave over night. Before going into the show ring, unbraid, comb and fluff the tail out. Some tails may be fluffed without braiding.

Trimming the feet.—If the hoofs on your animal are long and the toes turn up, the legs will not stand squarely under the body. This condition prevents the calf from walking normally. Examine the feet when the animal stands on a hard level surface. If trimming is necessary, trim to keep the sole level, smooth down the side walls and have the points of the toes even. Most of the trimming should be done on the under side of the foot. Hoofs trim more easily after the animal has been in grass wet with dew. The moisture softens the hoof. A pair of pincers or parers and a rasp are the tools needed. Before showing, clean hoofs thoroughly, dry and apply a very little sweet or olive oil to improve the appearance.

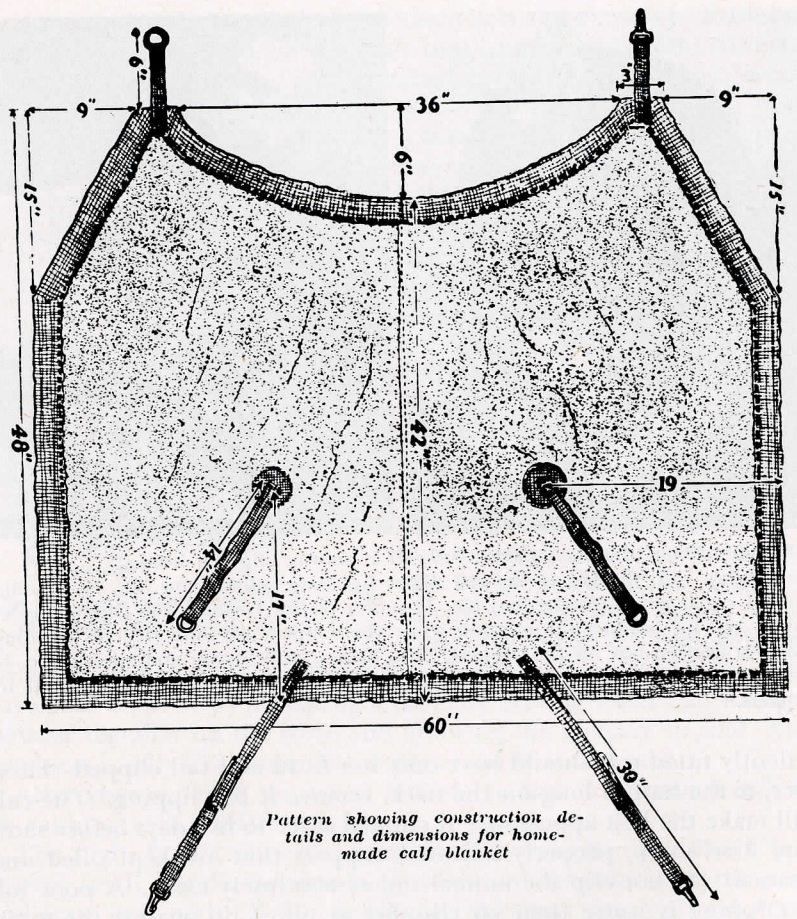
Clipping.—The amount of clipping you need to do will depend on how well you have blanketed and brushed your animal. An excellently fitted calf should have only her head and tail clipped. However, if the hair is long on the neck, remove it by clipping. The calf will make the best appearance if clipped three to five days before show day. Use sharp, properly adjusted clippers that are kept oiled and cleaned. Do not clip the animal unless absolutely clean. A poor job of clipping is worse than no clipping at all. Clip against the grain of the hair.



(Left) About five days before the calf is shown, clip the head.

(Right) Clip the tail of the calf about five days before show day. No. 1—mixture of equal part kerosene and No. 10 motor oil for cleaning the clipper blades; No. 2—can for holding the mixture while the clippers are immersed for cleaning; No. 3—a wooden box for the clippers, extra blades, screw driver and oil can; No. 4—extra clipper blades that are kept sharp, and screw driver; No. 5—light oil for clippers.

Begin at the nose and clip two lines to the eyes. Now clip between the lines and widen out to take in the entire head. The throat latch is an ideal place to blend the clipped and unclipped parts. If the neck is clipped, blend in front of the shoulders. The tail should be clipped, starting 1 or 2 inches above the switch. Blend in to the tail setting but don't go too high. Leave enough hair on the tail setting to give the rump a long level appearance. Blend in at the rear of the tail setting. Make the tail setting look square and not rounding. Clipping the belly of a calf or young heifer may give the animal a shallow-bodied appearance and is not recommended.

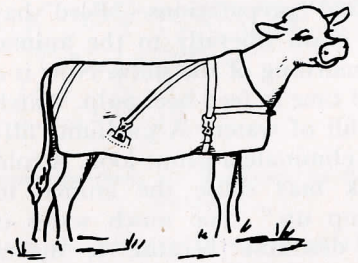


Pattern showing construction details and dimensions for homemade calf blanket

Care of the horns.—If your calf has horns, shaping and polishing them will add to the calf's appearance. Look at the horns on the true models to get an idea of the proper shape. To bring the horns in proper position use horn weights. Be careful that your weights are not too heavy as there is danger of breaking a small horn. After the horns are shaped properly you are ready to start the smoothing and polishing process. Smooth the horns with a half-round rasp or file. Balance the horns at the same time so they appear identical. Next scrape the horns with a wood scraper, piece of glass or a section of a piston ring. Do not work off too much of the horn. This may weaken it and cause the shell to be easily knocked off. Finish the horn with emery cloth torn in narrow strips. Work with the grain of the horn and not crosswise. Following this place oil or silver polish on the horn

and shine with a flannel cloth. Use the cloth as a shoe shiner does when he shines shoes. In preparing horns to look their best the first steps are the most important.

Blanketing.—To properly condition the hide and hair of your calf the animal needs to be blanketed several weeks before showing. A khaki duck blanket is the most serviceable and is the type most commonly used. Burlap bags sewed together make a blanket that can be used but it will permit some dirt to sift through. A pattern for making a blanket is shown on page 34.



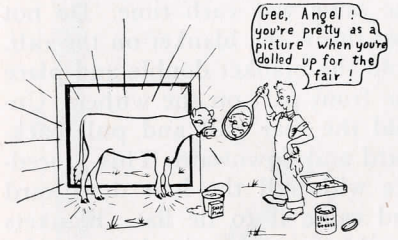
Make the blanket so that the front edge will cover the wither and lower point of the shoulder. The back edge should come to the tail setting.

Place the blanket on your calf the same way each time. Do not just throw the blanket on the calf. Fold the blanket double and place the front part on the withers. Unfold the rear half and pull backward and downward. This procedure will pull the hair downward and cause it to lie flat. Blankets should fit the animals properly. The canvas blankets may be lined or unlined. It is best to use an unlined blanket and have available a light wool or cotton blanket. After washing or when the weather is cool, the inside blanket can be used. It has the double advantage of being more readily and easily washed, and of being readily removed in warm weather and replaced in cool weather. Remove the blanket each day and brush the hair vigorously.

Keep the calf off balance. Don't let her brace herself.

Training for showing. — Start early to teach your calf to lead and pose. Don't become discouraged, as it will require time and patience to properly train her. First teach the calf to lead, starting when she is small. Lead the calf to water or to pasture. At first if she objects pull the lead rope to one side or the other. Keep the calf off balance and from bracing herself. After the calf leads well, start teaching her to pose. Walk the animal first for about 10 minutes to wear off excess energy. Now stop to pose her. After a minute or two start up again, walk a little ways, and pose again. Repeat this procedure until the animal responds to your

desires. Teach the calf to take short steps. Discourage haste. Fast walking usually means long steps and this tends to stretch an animal. A calf that walks slowly will stop on short notice and not look awkward. She then steps off easily and gracefully. Study the appearance of the animal with her feet in different positions. Train her to stop with the feet placed to the best advantage. Generally this is with the front feet side by side and 4 to 6 inches apart. The rear feet should be straight and the rump as level as possible. Keep the head up and the calf alert. To accustom your calf to strangers, show her to visitors when they are at your farm.



Proper fitting will give your calf a pleasing appearance.

Final preparations. – Feed hay and grain liberally to the animal the morning of the show. Now is a good time to feed beet pulp. Watch the fill of water. A medium "fill" will eliminate a gaunt look. A cold drink may cause the animal to "hump up." Too much water is not desirable because it makes animals look unnatural. Good judgment, care and experience is needed to secure the proper fill.

Before entering the show ring, go over the animal with a rag slightly moistened with a hair dressing. A hair dressing can be made by mixing together equal parts of alcohol, bay rum and olive oil.

In showing county or state groups place together calves that appear similar.

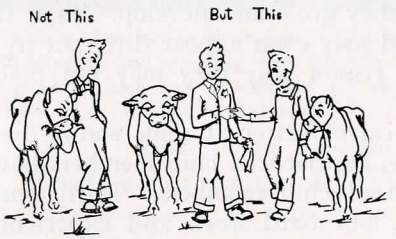
Apply the hair dressing evenly upon the animal, avoiding oily spots or too much oil. Massage the animal thoroughly with clean hands. Be alert as you go into the show ring, because you are "on your own." Good luck to you!

SHOWING

If you have followed the training suggestions your calf will be easy and a pleasure to show. Enter the ring promptly when the class is called.

Some showmen are handicaps to their animals.

In the show ring, walk on the left side in leading. Hold the lead rope in the hand nearest the calf. Coil the extra rope and hold it in the same hand. Keep an eye on the judge. Of course, pay attention to the calf to make sure she is correctly posed and looking her best. When the calf is in a correct position do not try to move or change her. Some 4-H members have a tendency to fuss with their animals too much. From the time that you enter the ring until after the ribbons are placed and you lead your animal out, give all attention to showing. Never stand between the calf and the judge. Be ready to walk or move the calf when the judge directs. Never interfere with other showmen and always be courteous.



A good showman must be a good sportsman.

All club members are good sportsmen, so whether winning or losing, a good club member should smile and be ready to encourage the less fortunate or congratulate the winners. Ask the judge for the reasons for his placings if they are not obvious and try to profit by his explanations.

Exhibiting at fairs.—Rules and regulations vary at county, district, and state fairs. Before you exhibit your calf become familiar with the rules. Know when you should have your entry made. Fill out the entry blank accurately, neatly and completely and file before the closing date. Be sure your calf is entered in the proper class. Do not enter a junior yearling in the senior yearling class or vice versa. Do not enter a grade in a purebred class or vice versa. If you own a purebred calf be sure the calf has been transferred to you and that it shows on the registration paper which you possess. To be a purebred the calf

must have a sire and dam with registered names and numbers. The calf must have a registered name and number. If the calf does not meet these requirements, she is a grade.

Know the health requirements at the fair where you plan to exhibit. Be sure your calf will meet the health requirements and have papers in proper order. Know all about your calf so you can answer any question the judge might ask you. Be an informed 4-H club member and you will enjoy the work more.

JUDGING DAIRY CALVES

Men who judge dairy calves at shows are selected on their ability and experience. Larger shows, like the state fair, generally employ a judge who has specialized in placing dairy cattle. At many county or smaller fairs one man judges all classes of livestock. He may be better trained and prepared to judge all kinds of livestock than the specialized dairy judge, but not as well trained for specific classes. This causes differences in placing of animals from one show to another. Before calves are placed they are scored by the judge according to the Unified Score Card. All judges use the same score card, but not all of them score animals the same. This slight difference in scoring might cause variations in placing from one show to another.

Calves change continuously as they grow and develop. They do not look the same all the time and may even appear different in a 24-hour period. This is another reason why they may not place in the same group at all shows.

4-H club members show their calves better at some shows than they do at other shows. Generally, experienced club members have an advantage over the inexperienced club members. Hard work may overcome some inexperience, but hard work and experience combined can produce outstanding results.

Because results vary from one show to another, interest is always maintained in and around the show ring when dairy calves are judged.

Questions for Discussion

1. Why should you do a good job of fitting and showing your calf?
2. Describe a good procedure to follow in grooming your calf.
3. Why is it harmful to wash dairy animals too many times? Describe a good washing procedure.
4. Describe or demonstrate how to trim the feet of a calf.
5. What is the best procedure to follow in caring for clippers?
6. Describe or demonstrate how to clip a calf.
7. How does the hide and hair change after a calf has been blanketed five to six weeks?
8. Describe or demonstrate how you would teach your calf to lead and pose.

9. What are some of the things you should do just before you go into the show ring?
10. Why doesn't a calf always win the same prize at different shows?

Calves showing to their best advantage because they are clean, properly fitted and clipped, and standing with muscles taut and feet properly placed. Heads are in good position and expressions are alert. The 4-H club members are properly dressed and pleasing in appearance.

Last-Minute Tips for the Junior Exhibitor

1. Before entering the show ring, go over your calf with a brush or clean rag; be sure the tail is fluffed out and the horns are polished.
2. Check to see that the calf is free of straw, dirt and manure, particularly on the hooves.
3. Be sure your dairy show halter fits properly.
4. Enter the show ring promptly when your class is called and walk on the left side of your calf.
5. Keep excess lead strap in your left hand, but be able to shift the lead strap from one hand to another.
6. Watch the judge closely and be ready to walk your calf when he directs.
7. Never interfere with other showmen and always be courteous.
8. Don't overshow or try to "grandstand" with your animal.
9. If the ground is not level, select the higher ground upon which to place the front feet.
10. After ribbons are awarded, continue to show your animal until out of the show ring.

HOW TO CARE FOR COMMON AILMENTS

There is no substitute for good feeding practices and careful management. Be very careful not to bring disease onto your farm by buying cattle or livestock that may be diseased or carriers of disease. To make sure, place newly acquired animals away from your 4-H club calf. The best arrangement is to quarantine newly purchased animals for 60 days.

Your calf, in spite of good care and careful feeding, may become sick and need special attention. If your calf is sick you may need to call a veterinarian. Don't take chances. A few suggestions on the prevention of common ailments are presented in this manual.

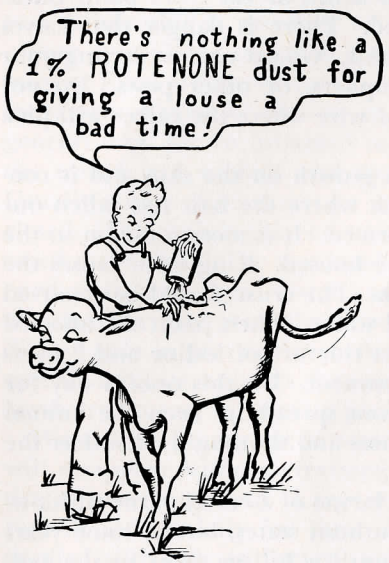
Black leg.—Vaccinate calves against black leg. For best results vaccinate when calves are not over six months old. Vaccinate again when they are twelve to eighteen months old. Use a vaccine from a reliable company. If the calf is vaccinated the first time after she is six months old, vaccination the second time may not be necessary.

Bloat.—Bloat is caused by an excessive accumulation of gas in the paunch. A number of things may bring about this condition. Calves in poor condition and underfed are most likely to bloat. Green feeds that are moist often cause bloat when eaten rapidly and in large quantities. Alfalfa and clover seem to be the worst in this regard. Moving the animal, or sudden changes in feeding habits, sometimes start bloat. Home remedies like formalin and milk in a drench will help.

Bloated animals should not be moved too much or too far. Moving the animal shakes the contents of the paunch and makes the condition worse. A stick in the mouth, fastened with a halter or strap in the form of a bridle, may relieve bloat. As a last resort the paunch may be punctured. If absolutely necessary, insert a trocar into the paunch on the left side in the "hunger hollow" at a point halfway between the hip bone and last rib. The trocar should be in a cannula when inserted. The cannula is a tube with a widened collar into which the trocar fits. After inserting the trocar and cannula the latter remains in the side to permit the gas to escape. If no trocar is available, use a pocket knife.

Coccidiosis.—This disease affects calves of different ages. It is caused by coccidia, which are parasites that get into the animal's body in food and water. Symptoms of the infection are bloody diarrhea, loss of weight, drooping ears, a dullness and loss of appetite. Coccidiosis is easily confused with other diseases; therefore, to be cured without any harmful effects, it should be diagnosed and treated at a very early stage. Calves with the disease should be kept by themselves, and manure and contaminated bedding removed daily from their pens.

Lice.—Calves are annoyed by lice. If lice are present in large numbers they will prevent proper growth. Generally they are present in large numbers before being noticed. Lice cause the hair to look dull and lifeless. Because lousy calves rub against the fence and mangers, hair is soon removed. Lice are generally found over the shoulders, on the neck, around the ears, along the back, and around the tailhead. Lice will do most damage when your calf's hair is long in the winter. Rotenone and DDT can be used as successful controls against lice. Apply Rotenone (1 per cent) as a powder to every part of the animal where the lice may gather. Repeat this treatment in 16 to 20 days to kill lice hatched since the first treatment.



Apply Rotenone (1 per cent) as a powder to every part of the animal.

Use DDT as a spray or dip. As a dip, use 4 pounds of 50 per cent wettable DDT powder to each 100 gallons of water. The calf should be wet thoroughly. It is best to use the dip or spray when the day is warm and the sun is shining. If the weather is cold or damp, see that the calf is exercised afterward. October is the best month for treatment.

Licking and sucking.—After calves drink their milk, they develop the habit of sucking each other's ears or udders. This is a bad habit. Keep calves locked in stanchions and feed grain so the milk taste will be removed. Between stanchions there should be a 10- to 12-inch board as a partition for separating calves. If the calves are not fed in stanchions, separate by tying after feeding. Keep them apart so they don't start this habit. It is easier to prevent such a habit than it is to stop it.

Pneumonia.—A calf that is exposed to wet, cold weather or lives in a damp, poorly ventilated pen or stall with wet bedding may become sick with pneumonia. A calf that is weakened with scours will more easily contract the disease. Symptoms are usually a lack of appetite, rapid breathing, high temperature, coughing and constipation. Every year many calves die from this disease. Sick calves should be placed in dry, well bedded pens away from other animals. The pen should be free from drafts, and warm. Blanket the sick

calf to keep her warm. Feed should be reduced. Call a veterinarian to give the calf any drugs or cures.

Poisoning.—Prevent your calf from licking newly painted fences or buildings. Do not permit the calf to drink or eat from paint buckets after the paint has been removed. There is danger that calves will be poisoned from lead in the paint. Guard against letting your calf eat poisons put out for rats, gophers, or other pests. Do not scatter nails, staples, or short pieces of wire where the calves will pick them up with their feed.

Ringworm.—Ringworm is a fungus growth on the skin and is contagious. It appears as a circular patch where the hair has fallen out and a white or gray scaly crust has formed. It is most common in the winter or early spring when calves are housed. Ringworm causes the calf to scratch because of the irritation. The crust should be removed by scraping or soaking with soap and water. Then paint the affected area with tincture of iodine; or 1 part tincture of iodine and 2 parts glycerine or crude oil; or sulphur ointment. Do this once a day for several days. To keep the disease from spreading, keep the animal with ringworm separated from the others and thoroughly disinfect the stalls or pens.

Screw worms.—Screw worms are the larvae of a certain kind of blowfly. They are found mostly in the southern states, but in some years are present in Nebraska from June until a killing frost in the fall. This larva or maggot does its damage in wounds caused by dehorning or castrating, or in barbed wire cuts or other kinds of wounds. Avoid causing wounds by dehorning or castrating calves during the period when the adults are laying eggs. Smears are on the market that are helpful in treating calves affected with screw worms if used properly and in time.

Scours from indigestion.—If your calf gets scours, check on your feeding and management methods immediately. A calf with scours becomes dull and listless and loses its appetite. The droppings are thin and foul smelling. Before scouring starts the calf may be constipated. This condition of indigestion may be due to several things: feeding too much, feeding at irregular temperatures, milk too rich in butterfat, sour or dirty milk, sudden changes in amounts or kinds of feed, dirty feeding pails, or cold, damp, unhealthful quarters. To correct the condition reduce the amount of feed by one-half. Give 2 to 6 tablespoonfuls of castor oil mixed in the milk. Cleanse and disinfect the pens thoroughly and keep clean and dry.

White scours.—Calves may be affected with a highly infectious diarrhea a few days after birth. This disease generally is fatal, the calf dying within three or four days. Symptoms are dull, sunken eyes, weakness and whitish droppings with a very disagreeable odor. The

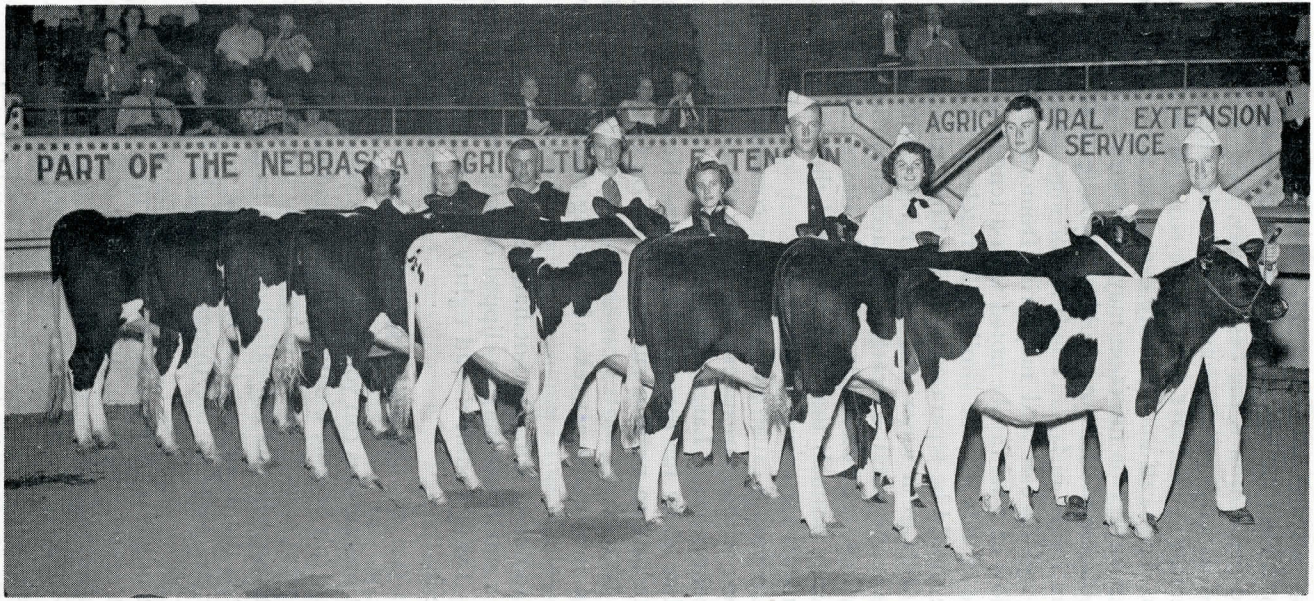
calf may contract the disease through the navel or digestive tract after exposure to unclean bedding or pens or to other calves. It is difficult to cure, and prevention is the best remedy. Affected calves should be isolated and a veterinarian consulted. A thorough job of cleaning and disinfecting is necessary after white scours have been on a farm.

Sore eyes.—Your calf may get sore eyes from a number of different causes. Flies, injury or infection may cause sore eyes. Pink eye is a contagious disease of the eye of old and young cattle. Pink eye is a general term for an inflamed condition of some of the membranes of the eyelid and eyeball and may arise from more than one cause. Usually a flow of tears can be noted with a tendency to keep the eyes closed. The eyelids may be swollen. It rarely occurs in winter. Diseased cattle should be separated from healthy cattle and put in darkened stalls with fresh water and a rather light, succulent diet. The veterinarian may prescribe treatment. Vaccination has prevented the disease only in part of the cattle treated. White or cloudy spots on the eyeball indicate animals that may have had the disease. Do not use harsh treatments for curing pink eye.

Warts.—On young cattle warts are very common. Sometimes they will disappear without treatment, but early treatment is a good practice to prevent growth. Large warts may be treated by applying tincture of iodine daily for three or four days. However, it should be applied with care to prevent running down on healthy skin. Iodine should not be used on warts near the eyes. Small warts will usually disappear in two or three weeks after being soaked daily with sweet oil or castor oil. A small pump oil can may be used in applying the tincture of iodine or oil. Do not handle the warts with your hands. Warts with a small base may be clipped off with scissors that are clean and sterile. Tying a stout thread tightly around the base of the wart will remove it.

Questions for Discussion

1. What precautions can you take to keep your calf free of disease?
2. If your calf became bloated after she had been moved 50 to 100 miles, what would you do to relieve the bloated condition?
3. What symptoms do animals show that have lice?
4. What is the harm in calves sucking one another?
5. What are some of the things that might cause pneumonia in calves?
6. What might poison calves on your farm?
7. What causes ringworm, and how is it controlled?
8. What are some common causes of calf scours?
9. Describe a condition of pink eye, and what would you suggest as a remedy?
10. If warts appeared on your calf, how could they be removed?



State fair purple ribbon winners.